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Safety

**AIRCRAFT MAINTENANCE HANGAR
OPERATIONS**

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This instruction implements Air Force Policy Directive (AFPD) 91-3, *Occupational Safety and Health*. It references Air Force Occupational Safety and Health Standard (AFOSHSTD) 91-100, *Aircraft Flight Line - Ground Operations and Activities*, and incorporates 419th Fighter Wing Instruction (419FWI) 91-202, *Hydrazine Alert Procedures for Hangered Aircraft*. It assigns responsibilities and establishes procedures for safe operations in aircraft maintenance hangars (Buildings 590, 578, 576, 567, and 5186). This instruction provides procedures for safe maintenance practices in aircraft hangers, vehicle parking plan, emergency aircraft removal plan for hangered aircraft in the event of a fire and Hydrazine mishap. The use of this instruction minimizes the potential for personnel injury and property damage. This instruction is applicable to all personnel assigned to the wing.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

1. Operations:

- 1.1. Sufficient space will be provided between aircraft in maintenance hangars to ensure safe movement of equipment, materials, and personnel.
- 1.2. Equipment such as aircraft panels, cowlings, and other parts shall be stored on mats to prevent damage, or put in storage if not in use for long periods of time.
- 1.3. Spilled fluids and standing water present serious slipping hazards to personnel, every effort should be taken to prevent and eliminate these hazards. Upon identifying spilled fluids or standing water, clean up using appropriate equipment, if needed report facility leak to facility manager for repair, report all fuel spills to maintenance operations center (MOC) and wing safety.

- 1.4. A 50 foot clear zone will be maintained directly in front of hangar doors and will be kept clear of stationary objects. All equipment will be immediately removed when no longer required.
- 1.5. Powered industrial equipment and vehicles will not be operated in hangar unless adequate ventilation is provided.
- 1.6. When extended vehicle or industrial equipment operation is required, as a minimum, either the north or south hangar door will be open to its minimum opening width (10 feet).
- 1.7. Generators will not be positioned within a ten-foot radius of an aircraft fuel system vent. The design of the generators will locate all electrical equipment, sparking contacts, hot surfaces, and other possible ignition sources at least 18 inches above the floor level. At no time shall powered age be refueled inside hangars.
- 1.8. Technical Order (T.O.) 11A-1-33, *Handling and Maintenance of Explosive-loaded Aircraft*, will be adhered to when placing explosive loaded aircraft in maintenance hangars.
- 1.9. Only qualified personnel will perform aircraft movement. Coordinate all aircraft movement with MOC.
- 1.10. Maintenance hangars are considered congested areas. During any aircraft movement wing and tail walkers will be utilized.
- 1.11. Batteries will not be charged within 25 feet of aircraft fuel tank vents, or when there are open fuel cells in aircraft maintenance hangars.
- 1.12. All powered hoists in maintenance hangars will have POC posted on hoist.
- 1.13. Manual steering bars will be positioned in the vicinity of parked aircraft.
- 1.14. When positioning aircraft manually, manual steering bar will be used.
- 1.15. Portable heaters will not be operated inside maintenance hangars.

2. Vehicle Operations:

- 2.1. Vehicles present two hazards for hangar operations, a possible ignition source for flammable vapors and a traffic hazard.
- 2.2. Vehicles will not park or be driven within 25 feet of fuel spills or aircraft fuel vents.
- 2.3. When mission requirements or weather conditions create a need to park vehicles inside hangars, the parking area will be restricted to the northeast or north center section of hangar, bldg 590. Ignition keys will be left in unattended vehicles, park brakes will be set, transmission shift levers will be in park. All vehicles will be positioned to permit ease of removal in the event of an emergency.
- 2.4. Vehicles with metal wheels or studded tires will not be operated inside maintenance hangars when aircraft, fuel tanks, or open fuel cells are present.

3. Procedures:

- 3.1. Emergency Action:
 - 3.1.1. Emergencies during duty hours:

- 3.1.2. Aircraft Maintenance Squadron (AMXS) expeditor will appoint and supervise tow teams to remove aircraft from hangars. Considerations will be taken for safety of individuals over the aircraft. No individual will be put into any hazardous situation unnecessarily.
- 3.1.3. The AMXS expeditor will appoint tow teams from qualified individuals on duty. If assistance is required, he will contact the command post that will refer to the tow team recall roster provided by the fighter squadron maintenance officer.
- 3.1.4. Tow teams will begin removal of aircraft immediately from both North and South ends of hangar if available.
- 3.1.5. If the fire suppression sprinklers are on, tow teams will not open aircraft canopies.
- 3.1.6. Tow team supervisors will coordinate with the AMXS expeditor on relocation positions for each aircraft.
- 3.1.7. Safety procedures will be followed at all times.
- 3.1.8. The AMXS expeditor will notify MOC once all aircraft have been removed or if the hazard becomes too great to continue removal efforts.
- 3.2. Emergency during off-duty hours:
 - 3.2.1. The command post will refer to the tow team recall roster and notify the supervisor listed or the first tow team supervisor they can reach.
 - 3.2.2. The first supervisor to arrive at the site will be designated as the on-scene supervisor (OSC) and will appoint tow teams as personnel arrive.

4. Responsibilities:

- 4.1. Individual:
 - 4.1.1. In the event of a fire:
 - 4.1.2. Personnel must immediately notify MOC and activate fire alarms.
 - 4.1.3. If feasible, individual will attempt to control fire using portable fire extinguishers, no attempt should be made to fight fire which is obviously too large to control with portable fire extinguisher.
 - 4.1.4. Evacuate all non-essential personnel, assist in aircraft and equipment removal as required.
- 4.2. In the event of a hydrazine spill. Individual will immediately notify MOC, ensure all personnel in the area are notified of spill and evacuate to a safe distance or evacuate the facility.
- 4.3. Base Fire Chief or Representative. Direct all emergency operations and determines if emergency aircraft removal is feasible, in the event of any emergency.
- 4.4. AMXS Expeditor or Supervisor. Assume responsibilities as the OSC until the base fire chief or representative arrives.
- 4.5. In the event of a fire:
 - 4.5.1. Determine if continued fire fighting is feasible with portable fire extinguisher.
 - 4.5.2. Directs evacuation of affected aircraft or adjacent aircraft as applicable:

- 4.5.3. Keep MOC informed of all emergency actions.
- 4.6. Tow Team Supervisor. Remove aircraft as directed by OSC, in the event of a fire.
- 4.7. Maintenance Operations Center (MOC). Notify the fire department, MXG commander, OG commander, security police, QA, and other required base agencies for emergencies.
- 4.8. In the event of a fire:
 - 4.8.1. Upon notification of a fire, initiate emergency action checklist and notify appropriate agency.
 - 4.8.2. Coordinate all maintenance actions as deemed necessary by the OSC.
 - 4.8.3. Broadcast by radio the nature of emergency.
 - 4.8.4. Secure one radio frequency for emergency transmission only.
 - 4.8.5. Notify by radio all tow teams and tow vehicles to report to affected area to remove aircraft as deemed necessary by the OSC.
 - 4.8.6. Accomplish assigned tasks at the directions of the OSC
- 4.9. In the event of a hydrazine spill:
 - 4.9.1. All facilities. Notify AMXS expeditor, fuel system maintenance and announces the alert over the radio network.
 - 4.9.2. Building 590. Begins a systematic telephone notification to all shops in the hanger, alerting them to secure all doors that access the inside of the hanger.
- 4.10. Work centers:
 - 4.10.1. Building 590, In the event of a hydrazine spill:
 - 4.10.2. Shop personnel immediately lock all shop doors into hanger interior. **NOTE:** *Hallway doors inside hangar will be locked so personnel cannot enter hangar from outside.* Shop personnel then guard outside entrances to hangar until "ALL CLEAR" is given.
 - 4.10.3. Inspection Flight. Responsible for south hangar doors, the southwest vehicle door, and the southwest hangar personnel door.
 - 4.10.4. Metals Technologies Shop. Responsible for their west shop entrances and the west center hangar personnel doors.
 - 4.10.5. Specialist Flight. Responsible for the north hangar doors, northeast hangar personnel door and the east entrances into there shop.
 - 4.10.6. Weapons Flight. Monitors all east entrances into there shop, also the southeast hangar personnel door.
 - 4.10.7. MOC. Responsible for the east center hangar personal door.
 - 4.10.8. Tool/Supply Support. Responsible for east entrance into their shop.
 - 4.10.9. Structure/Corrosion. Responsible for northwest hangar personnel door
- 4.11. Buildings 578, 576, 567 and 5186 in the event of a hydrazine spill:
 - 4.11.1. Ensure all personnel are evacuated and accounted for.

- 4.11.2. Ensure an individual is positioned to direct base fire department to emergency.
- 4.12. Powered Hoist POC. Ensure periodic inspections are completed and documented on applicable AFTO form, ensure annual training is provided to all hoist operators, and ensure lockout/tagout procedures are followed when maintenance is required.

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